Crew Resource Management

Situational Awareness
Assertiveness
Decision Making
Communication
Leadership
Adaptability/Flexibility
Mission Analysis

Hauling Trash

By AD2 Terry Allegood

I awoke before the alarm that morning but remained in bed to squeeze out all of the rest I could. I knew we had a long mission scheduled that day: Fly from NAS New Orleans to Panama, pick up five pallets that weighed about 23,000 pounds, and fly to NAS Norfolk. Some of the cargo in Panama was the usual SEAL cargo: small-arms live ammo, smoke grenades, and other fun stuff. We also had a few flight doctors from NAS Pensacola riding along with us. No problem for the mighty Herc, right?

As I arrived at the squadron, the first crew member I met was our second loadmaster (2LM), a reservist who was a knowledgeable and skilled aircraft mechanic. He already had completed his preflight. The 2LM and I directed the flight docs to the officer's wardroom to relax until we had finished up the preliminaries.

We talked about the mission and busied ourselves with getting the lift messages, signing the aircrew reading-board pages, getting coffee and water, and taking care of other details. Once the weight and balance form was completed and the coordinated checks and preflight were done, we got our doctors, briefed them, and headed out to the bird.

We had completed the checklists and were rolling down the runway when, just before rotation speed, the flight engineer called out, "Bird strike!" The cockpit crew decided to continue the takeoff.

As soon as possible, I was up looking for bird

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damage to the port side, where I was seated. Then I looked out the right-side paratroop-door window. My attention immediately was captured by the large amount of fuel being siphoned out of the right, external fuel tank. I vividly remember saying, "Flight. Load. No visible bird damage. However, we have fuel venting overboard through the filler cap on the right external tank."

The flight engineer exploded, "What? Are you sure? How much?"

I answered the best I could. Even though a large amount of fuel was coming out, the air stream kept it flowing against and along the tank—a good thing because hot exhaust was passing just up and inboard of the leak.

In the meantime, the cockpit crew cleaned up the airplane and completed the after-takeoff checks. We then discussed the plan for returning to NAS New Orleans for a bird-strike inspection. We were sink-rate limited with 50,000 pounds of JP-8 on board, but, our aircraft commander decided we could land without dumping fuel.

The flight engineer came to the back to confirm the fuel leak. Now, some of you might be thinking, "Why would the engineer go to the back after a load-master has told him the trouble?" Friends, that's what CRM is all about: backing up one another. The pilots and FE set up for our landing. We returned to Earth uneventfully.

Impact marks of a dove were evident on the radome during the walkaround inspection. The No. 2 propeller cut up at least one bird, and the leading edge outboard of the engine "cried fowl." Fortunately, for us, the birds were small.

With the bird-strike inspection complete and the fuel cap reset, we again set out to complete our mission. After all, isn't that what it's all about? I love this stuff.

We had to consider our crew duty-day limitations. In the C-130, we may fly long missions across several time zones, so crew fatigue is always a challenge. We had an hour delay to begin our day, and, with the bird-strike inspection, we were looking at a lot of lost time.

We decided to go and arrived at Tocumen, Panama, five hours later. What could go wrong now? After all, home base and the bird strike were behind us. We now faced the time crunch of loading the aircraft inside of 90 minutes, so we could maintain our crew duty-day limits.

We should have left 30 minutes earlier; the rest of the SEAL team left an hour ago on another aircraft.

The 2LM and I were escorted to the pallet-staging area, where we planned the order for loading the pallets. We had to consider the location of the hazmat pallet and the height of all the pallets.

It became clear this load was not ready for us; it didn't have a current certification. The only paperwork was five weeks old, but we had the verbal assurance by the SEAL team hazmat-certification officer. This situation was certain cause for disqualifying the load. However, after discussions with the SEAL team and my aircraft commander, and with a can-do attitude, we were convinced we could complete the mission. The only remaining hitch was that the NAS Norfolk folks might not accept the load without the proper certification.

With the load plan completed and the clock ticking, we asked for the heaviest pallets to be loaded first. When the first pallet came out to us, I noticed it was positioned farther out on the arms of the forklift than normal. This situation shifts the forklift's center of gravity forward, causing the load to become unstable during braking. As we pushed the pallet into place inside the Herc, it seemed heavier than advertised. Initially, I attributed this difficulty to the ramp's uphill grade. Then I used a little ORM: What if the load was heavier than I had planned? It would be a hazard. The risk of getting the aircraft out of CG was significant. ORM says never take unnecessary risks. Well, we had a crew duty-day limit and a mission to complete. But, then I wondered if my reasoning about the upslope causing the heavier load was wrong. My gut feeling said I needed to weigh the pallets.

Wouldn't you know—the first few pallets all were off by at least 500 pounds apiece. "No problem," I thought, "I'll just make a few changes in weight and moments. No big deal." Didn't I already say that? Then came the last pallet, the ammo pallet, which was advertised at 1,120 pounds. Our U.S.-certified and calibrated scale, however, read 2,400 pounds. We determined that pallet had been weighed and assigned a kilo weight.

We had planned for this pallet to ride on the ramp, but the new weight made the aircraft severely tail heavy at 37 percent mean-aerodynamic chord (MAC). A 30-percent MAC is the farthest aft limit at this weight. In addition, four SEAL-team members were assigned to guard this load. They also had to be figured in the load plan.

"Take a deep breath, step back, and look at the big picture," I thought. The plane is loaded, except for one pallet—of hazmat. I wanted to kick off the pallet. We should have left 30 minutes earlier; the rest of the SEAL team had left an hour ago on another aircraft. We weren't supposed to spend the night in Panama. To take this load, we would have to reconfigure the aircraft. We decided to break down the seating arrangements in the forward end of the compartment. We pushed all four pallets forward to regain the center of gravity, then took off to complete the mission.

After landing in Norfolk that night, I thought about this incident. In our haste to get the mission accomplished and take off on time, we easily could have skipped questioning the load weights. The use of metric vice English units even confuses the engineers at NASA. What would have happened if we had not caught this discrepancy? Perhaps, we would have rotated on takeoff and lost longitudinal stability and control after rotation. That flight would not have been…

AD2 Allegood is a loadmaster with VR-54.